

GENERAL ELECTRIC SERVICE INFORMATION

MODEL
7-4220A
SPACEMAKER
KITCHEN RADIO

FILE TAB 7

CAUTION: THIS MANUAL IS DESIGNED FOR USE BY QUALIFIED ELECTRONIC TECHNICIANS ONLY. CONSUMER USERS ARE URGED TO CONTACT QUALIFIED FACTORY AUTHORIZED SERVICE FACILITIES FOR REPAIRS.

FEATURES

Radio Features

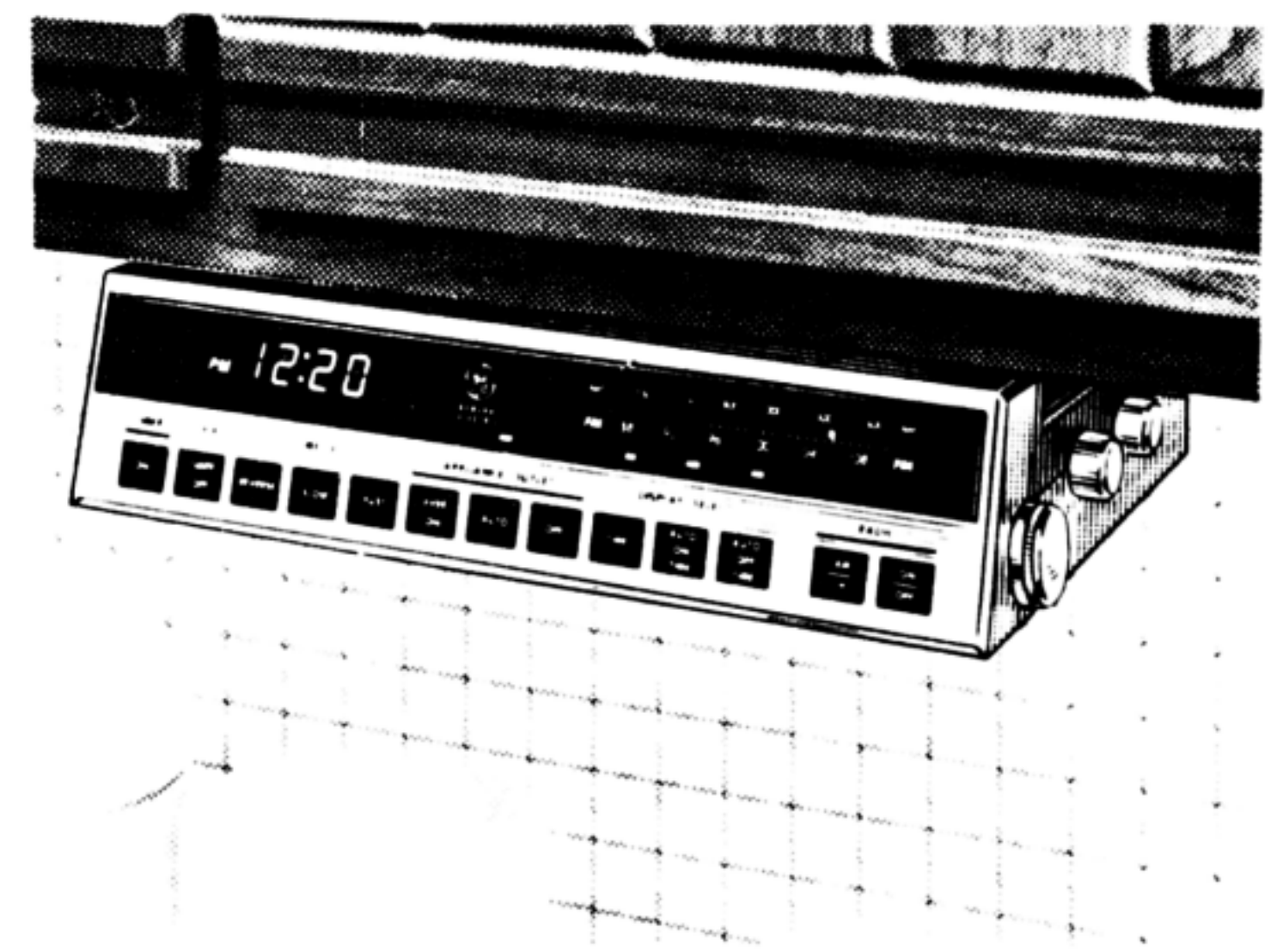
- FM/AM radio • 5" Dynamic Speaker - bottomfired • 700mw RMS audio output power • Continuous tone control • Loudness type volume control boosts bass response at low listening levels • Built in AFC (Automatic Frequency Control) on FM • Slide rule scale with two color LED pointer - Red for FM - Green for AM • Vernier tuning • Two antennas built in; ferrite rod for AM, line cord for FM

Clock/Timer/Outlet Features

- Easy-to-read blue fluorescent display for clock and timer functions
- Countdown timer - up to 1 hour and 59 minutes - when timer is in use, display shows time remaining, buzzer sounds when time elapses • Three way programmable timed appliance outlet (accepts up to 1650 watts) - "Auto": Plug appliance into convenient side-mounted AC outlet and set precise time "ON" and time "OFF". Appliance automatically turns on and off at preset times - Ever On: Outlet remains "ON" continuously for use as an extra kitchen outlet - "Off": Outlet remains "OFF" continuously until "Auto" or "Ever On" is engaged • Forward and Reverse time set with fast and slow speeds

Other Convenience Features

- Easy-to-clean "Touch Pad" electronic controls • Convenient mounting bracket complete with screws and allen wrench for easy installation
- Front-mounted LED indicators for visual feedback of function selection
- Convenient cord wrap and cord hooks to prevent cord dangling on kitchen counter • Time-hold capacitor stores energy to hold time and auto time in memory during momentary power failures • Visual power outage indication - time display blinks when power is restored until clock is reset



SERVICE

SPECIFICATIONS

ELECTRICAL	120 Volts AC, 60 Hz	SENSITIVITY (Average)	AM	25 uv/M for 20db quieting
APPLIANCE OUTLET	1650 W Maximum for appliances 600 W Maximum for television or lamps		FM	15 uv for 30db quieting
TUNING RANGE	AM 540 to 1600 KHz FM 88 to 108 MHz	MINIMUM VOLUME HUM (Average)		1.1 MV
INTERMEDIATE FREQUENCIES	AM 455 KHz FM 10.7 MHz	SPEAKER IMPEDANCE		8 ohms
POWER OUTPUT @ 10% DISTORTION (Average)	900 mw			

ALIGNMENT PROCEDURE

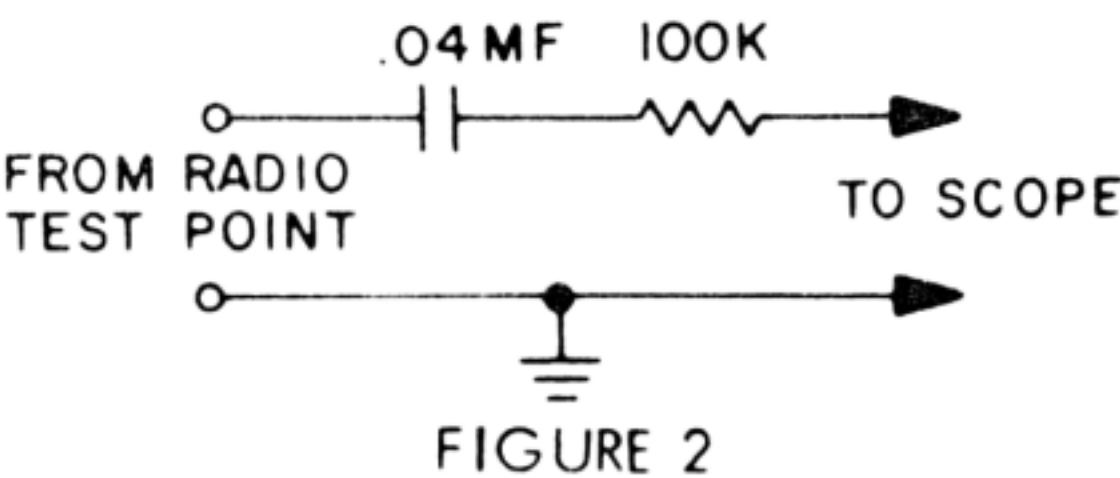
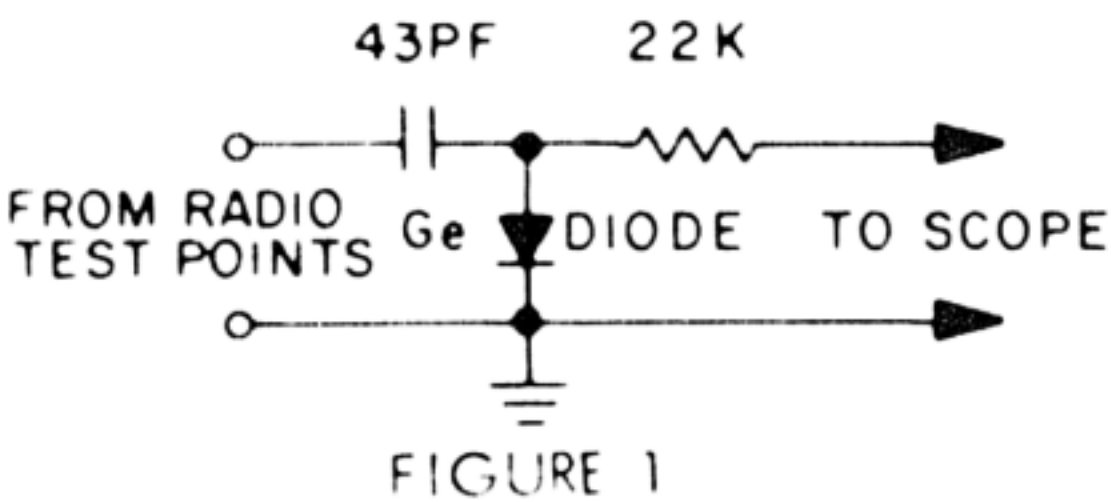
AM ALIGNMENT - BAND SWITCH IN AM POSITION

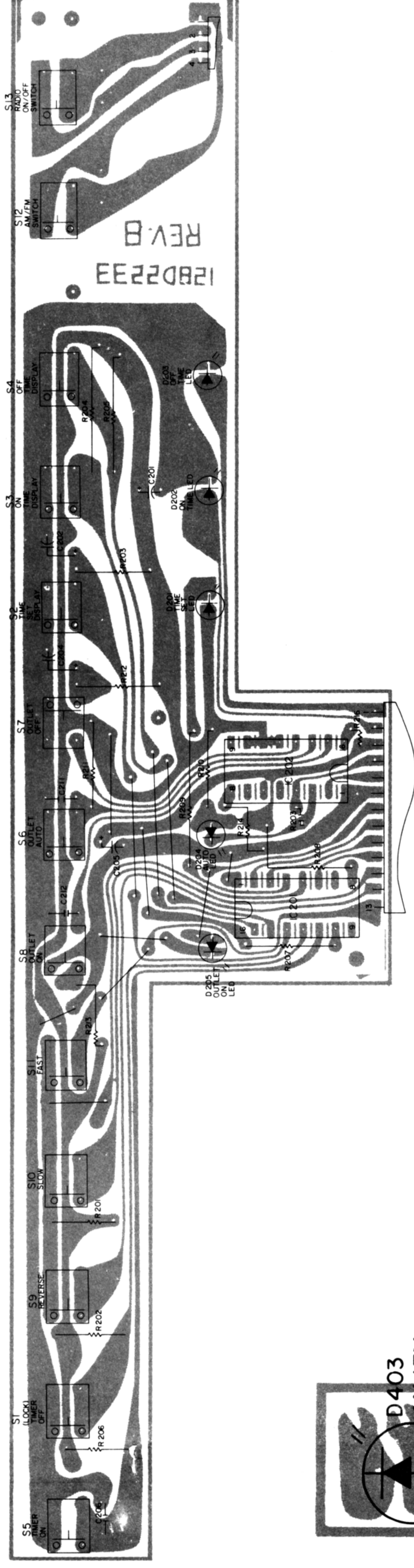
AM GENERATOR - RF Radiated Signal Modulated 30% at 400Hz				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 455 KHz	Low End	Output Meter Across Speaker	T 402, T 403, T 406	Adjust for maximum.
2. 1630 KHz	High End		TM 4	Adjust for maximum.
3. 520 KHz	Low End		L 406	Adjust for maximum. Repeat steps 2 & 3 for band ends.
4. 1400 KHz	Tune to Signal		TM 3	Adjust for maximum.
5. 580 KHz	Tune to Signal		L 404	Slide tank coil along core to obtain maximum output. Repeat steps 4 & 5 until no further improvement is noted. Wax or cement tank coil to core.

FM ALIGNMENT - BAND SWITCH IN FM POSITION/VOLUME CONTROL AT MINIMUM

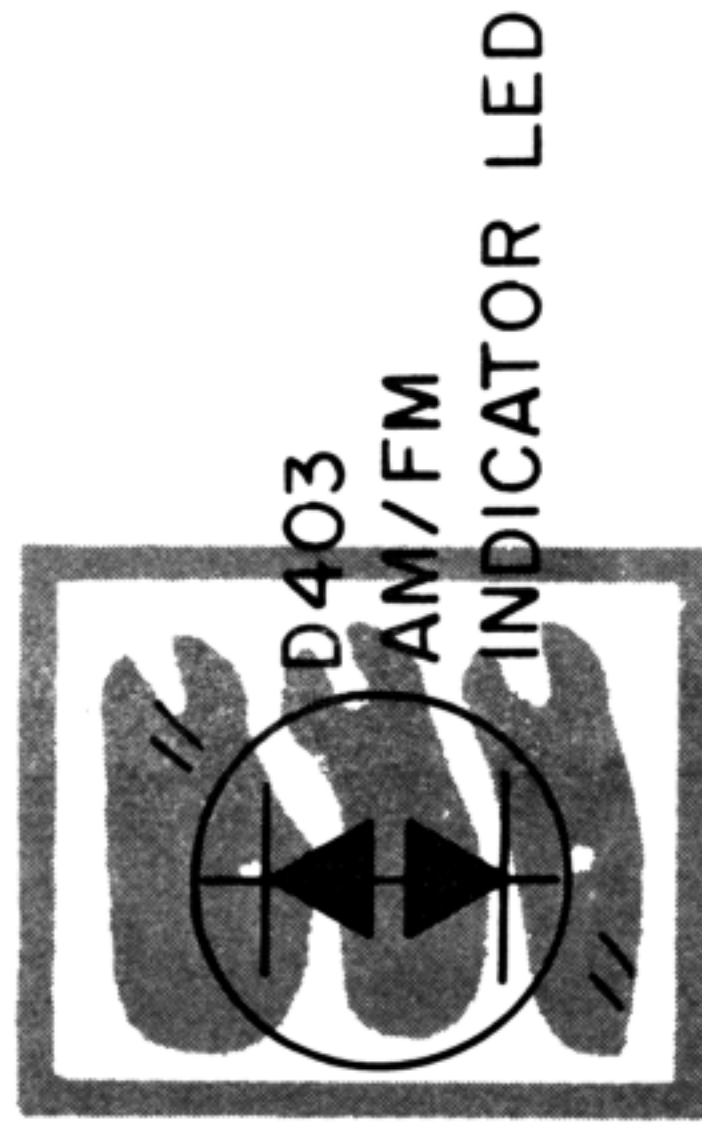
High Side of FM Generator thru a .04 MF Capacitor to TP1. Use only enough marker signal for indication.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 10.7 MHz	High End	Scope at TP2 thru Detector Pad (Figure 1)	T 401	Adjust for maximum gain and symmetry. ; Repeat as necessary.
2. 10.7 MHz	High End	Scope at TP3 thru Pad (Figure 2)	T 404, T 405	Adjust for maximum gain and symmetrical S-Curve.
FM GENERATOR - Modulated RF Radiated Signal				
3. 109.0 MHz	High End	Output Meter Across Speaker	TM 2	Adjust for maximum.
4. 87.5 MHz	Low End		L 405	Spread or compress coil windings slightly to raise or lower frequency. Repeat steps 3 & 4.
5. 108.0 MHz	Tune to Signal		TM 1	Adjust for maximum.
6. 88 MHz	Tune to Signal		L 401	Spread or compress coil windings slightly to obtain optimum alignment. Repeat steps 5 & 6.

NOTE: SCOPE USED MUST HAVE AT LEAST 50 MV/CM SENSITIVITY AND SWEEP GENERATOR AT LEAST 200 MV OUTPUT.

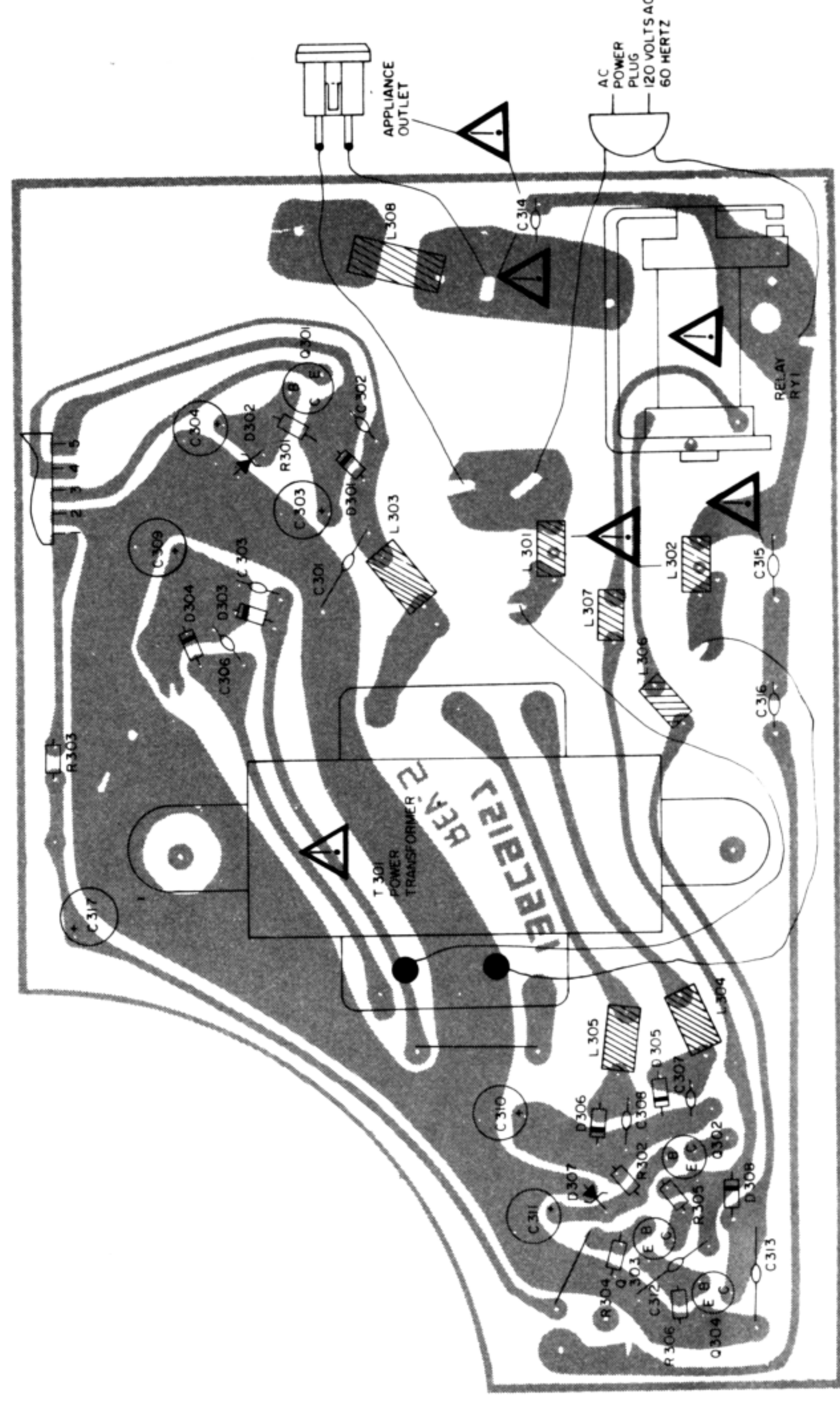
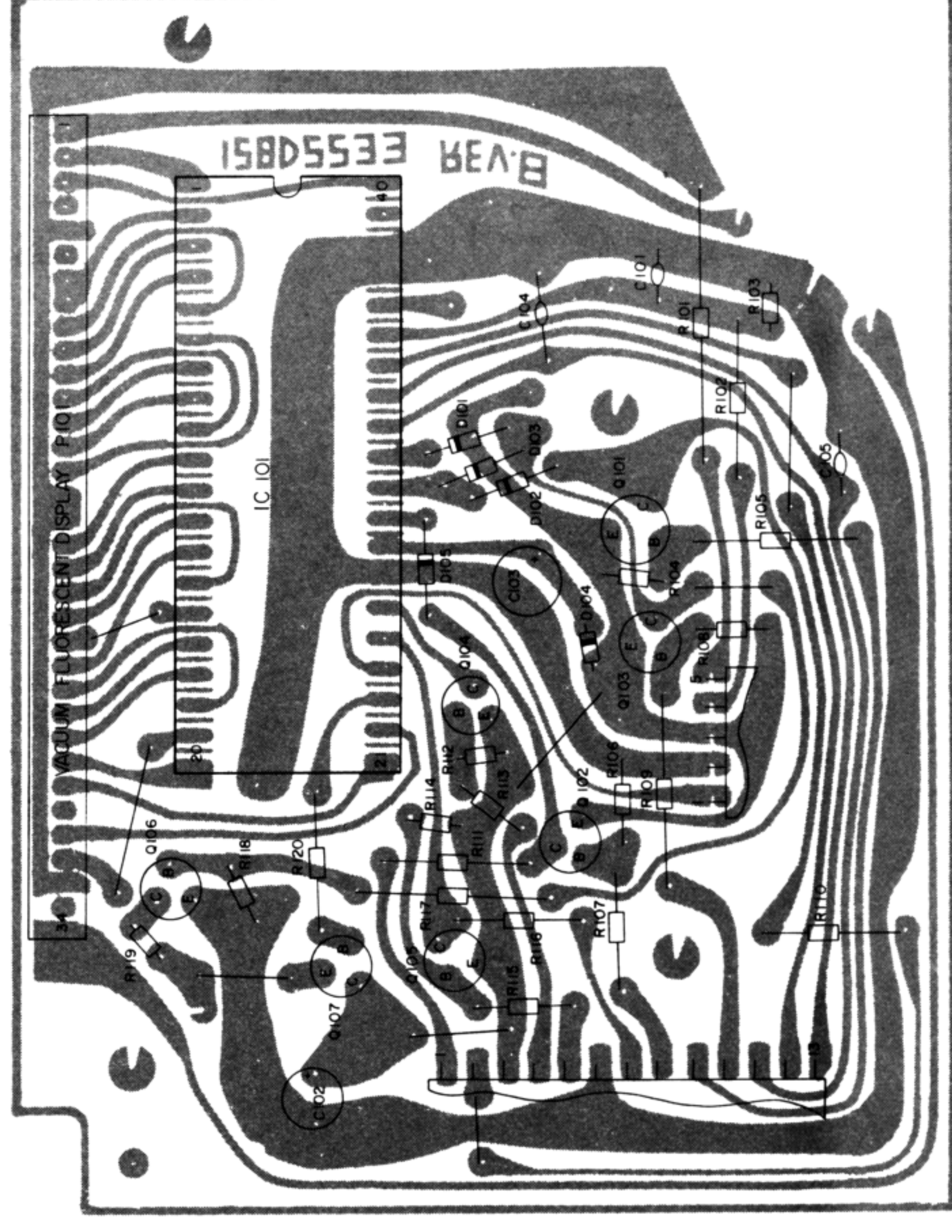




WIRING DIAGRAM (BOTTOM VIEW) SWITCH BOARD

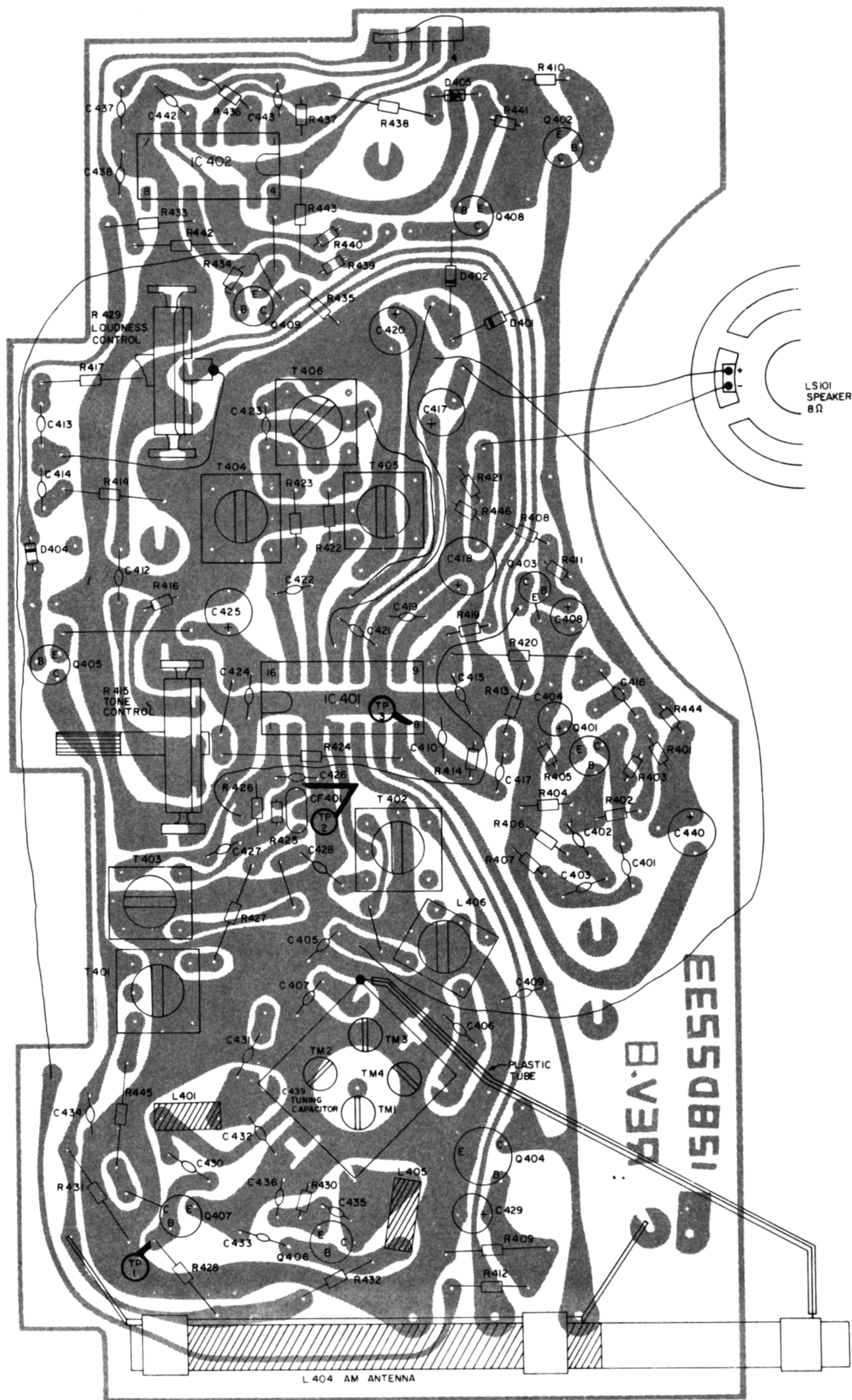


LED BOARD (TOP VIEW)

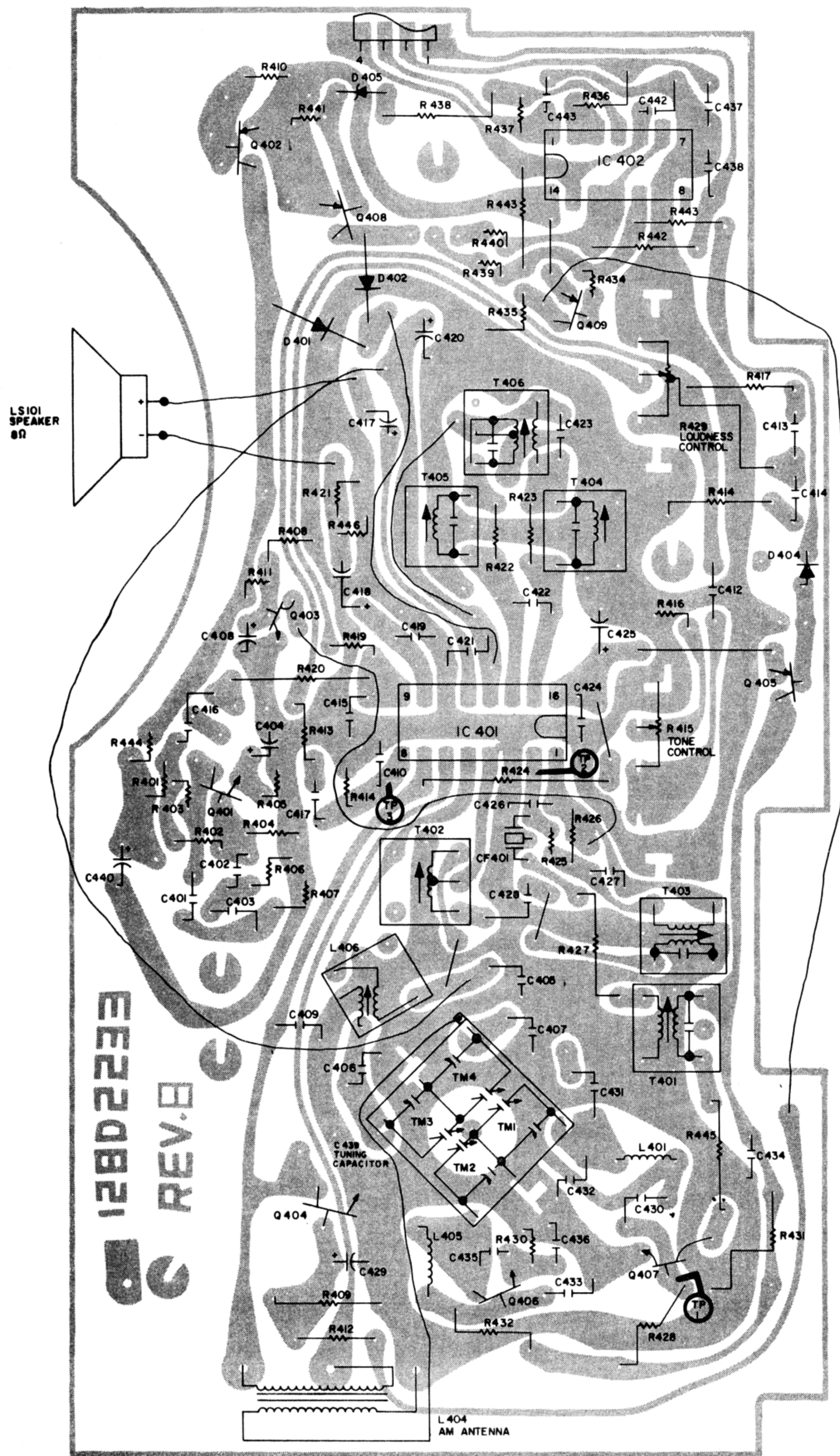


COMPONENT LAYOUT (TOP VIEW) POWER SUPPLY BOARD

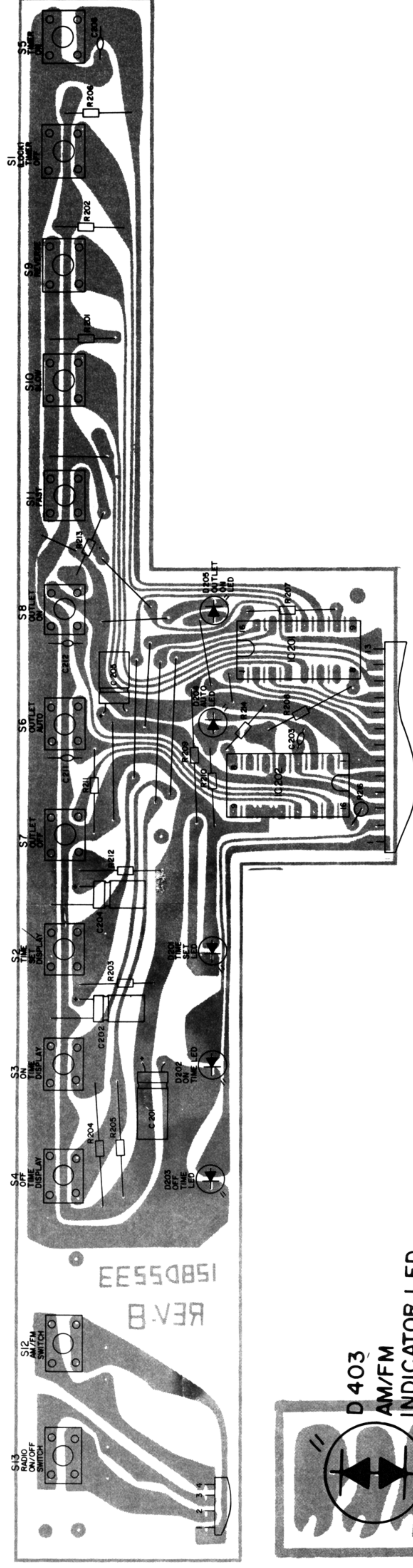
COMPONENT LAYOUT (TOP VIEW) DISPLAY BOARD



COMPONENT LAYOUT (TOP VIEW) TUNER BOARD

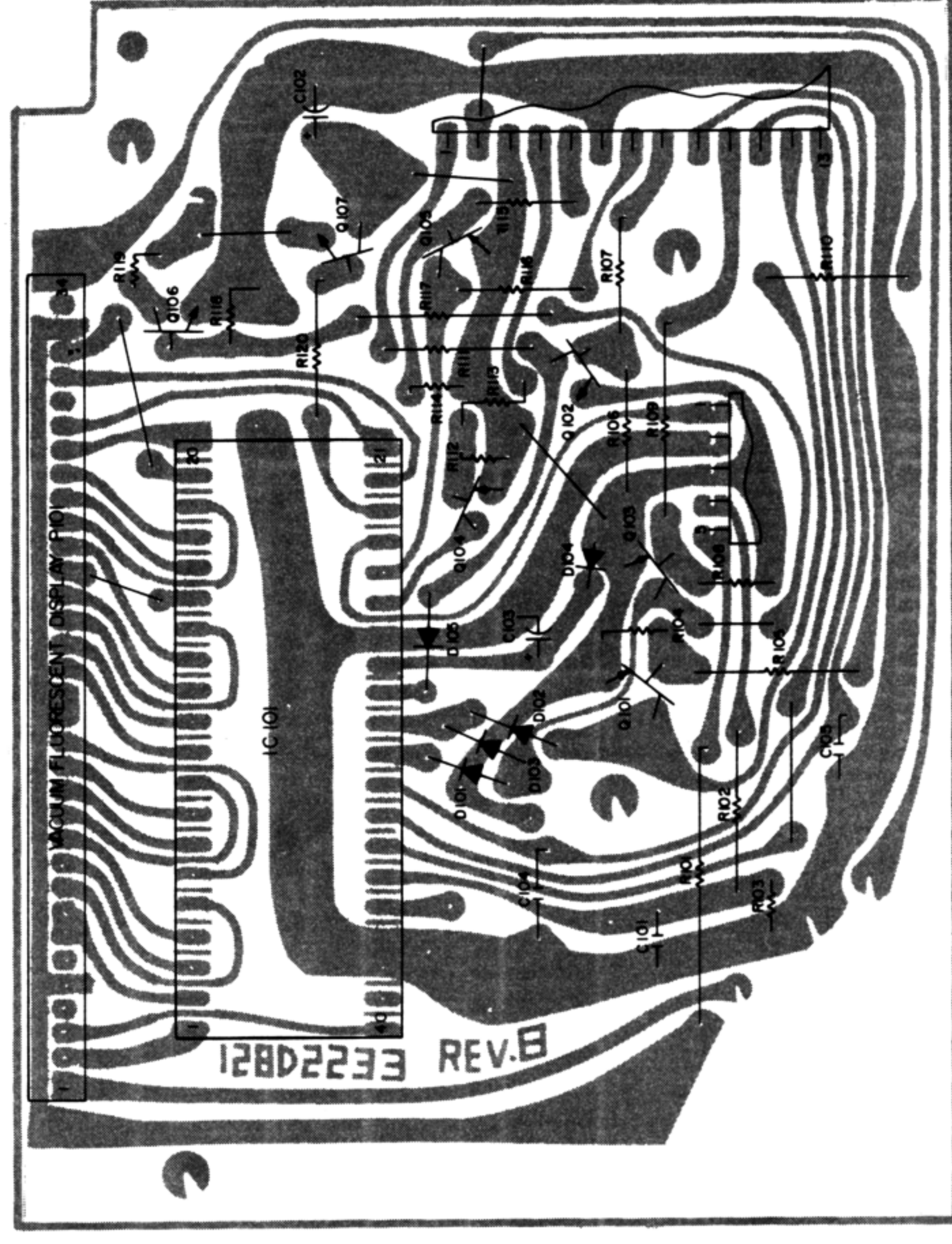


WIRING DIAGRAM (BOTTOM VIEW) TUNER BOARD

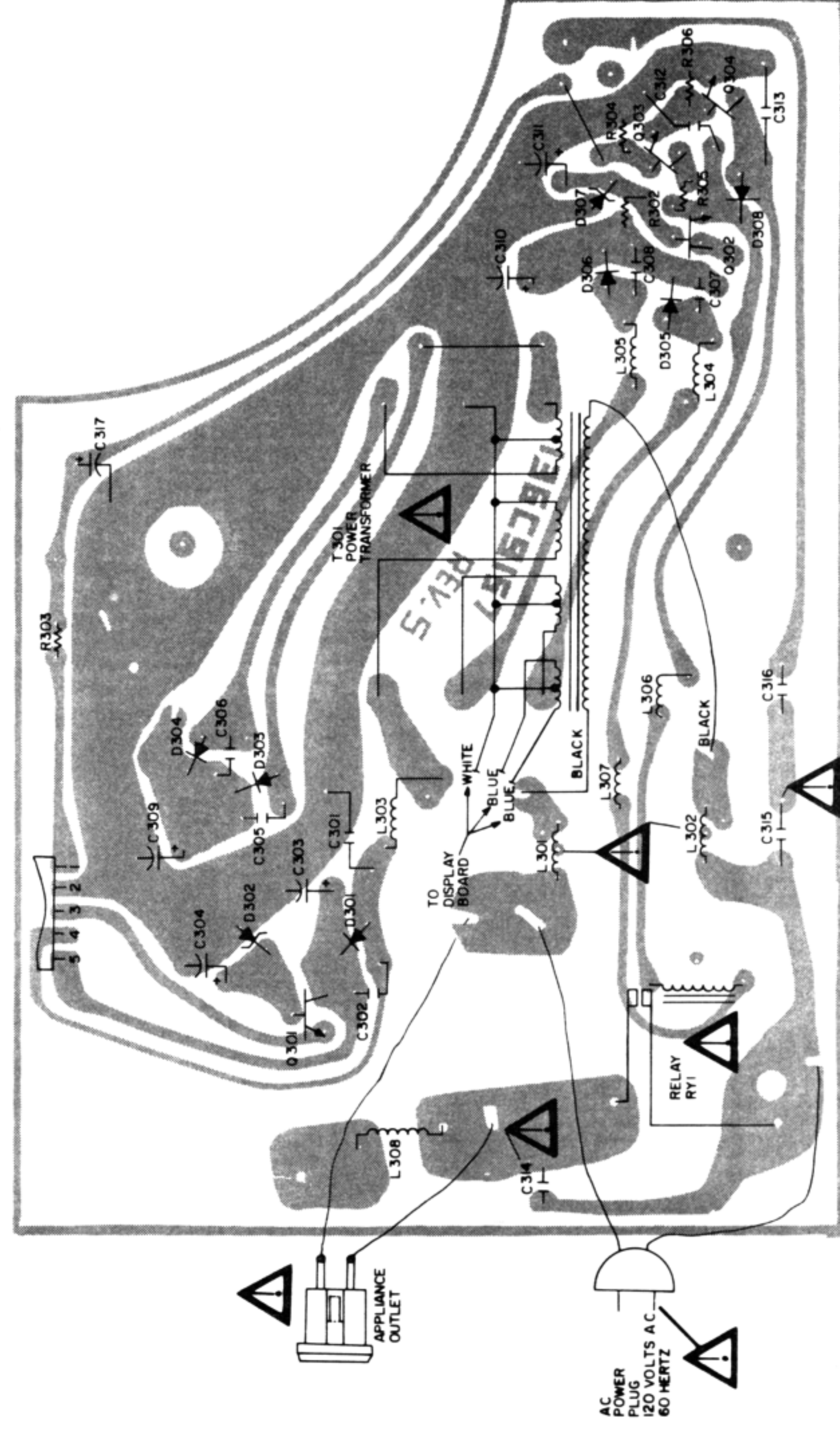


COMPONENT LAYOUT (TOP VIEW) SWITCH BOARD

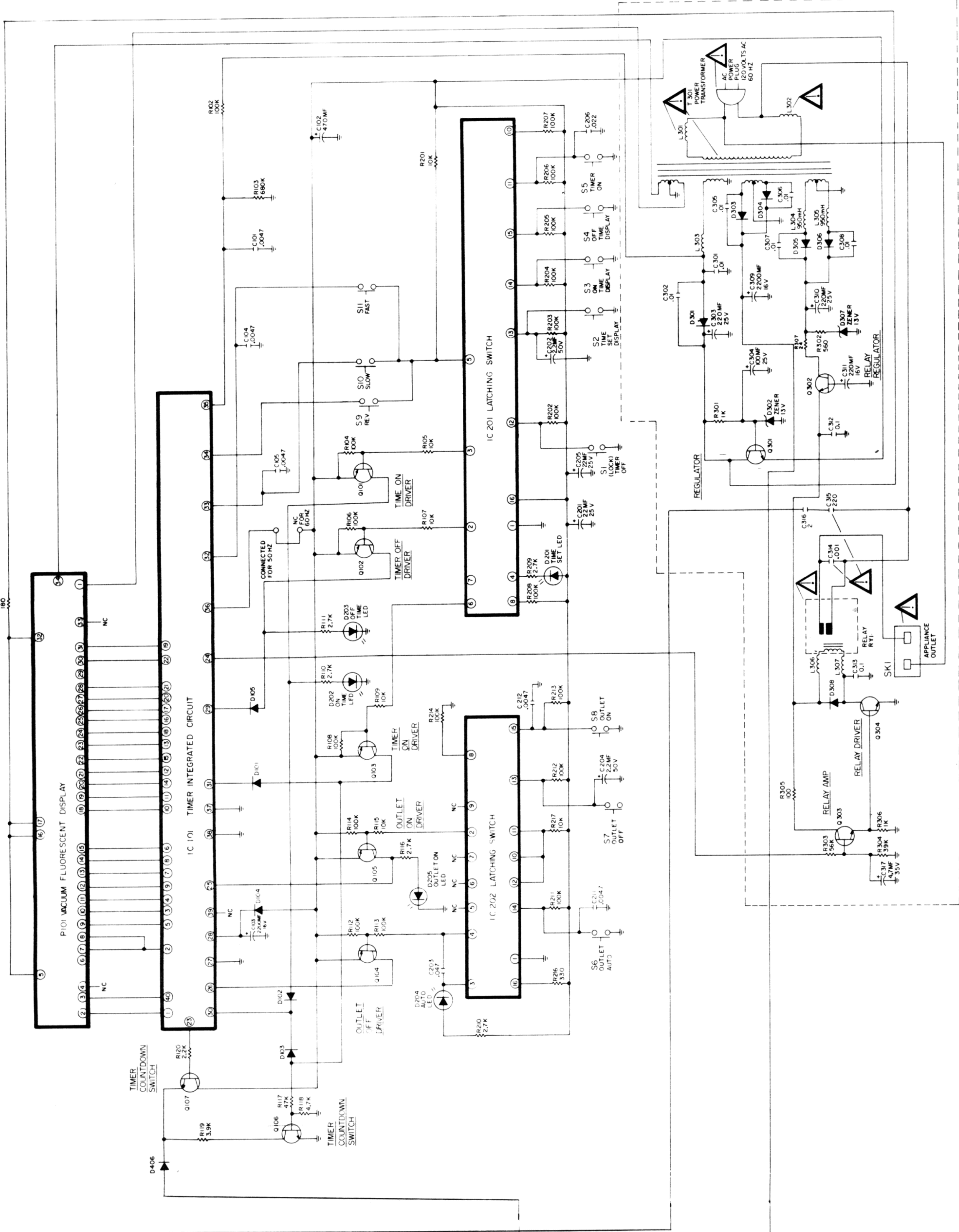
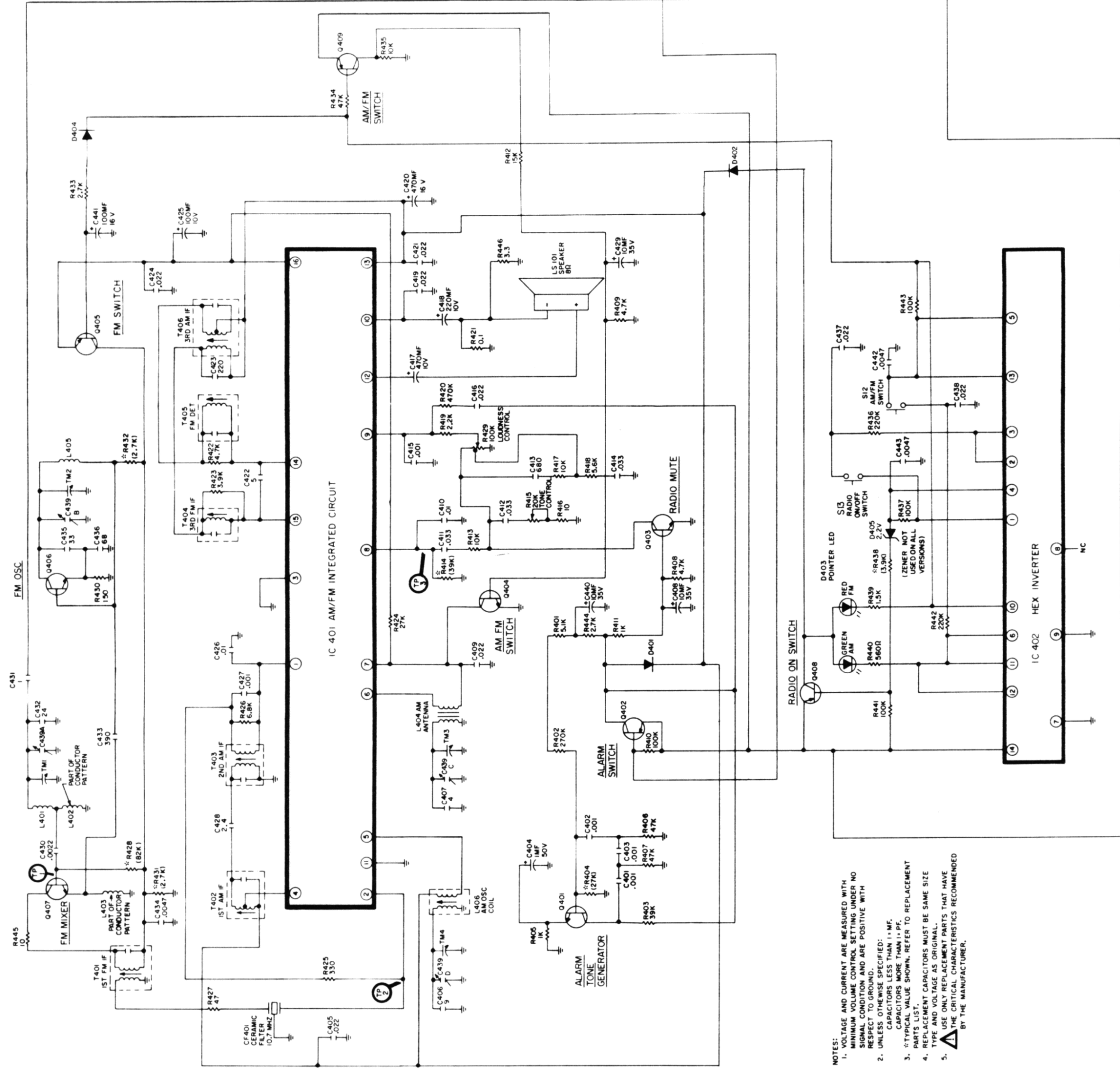
LED BOARD (BOTTOM VIEW)

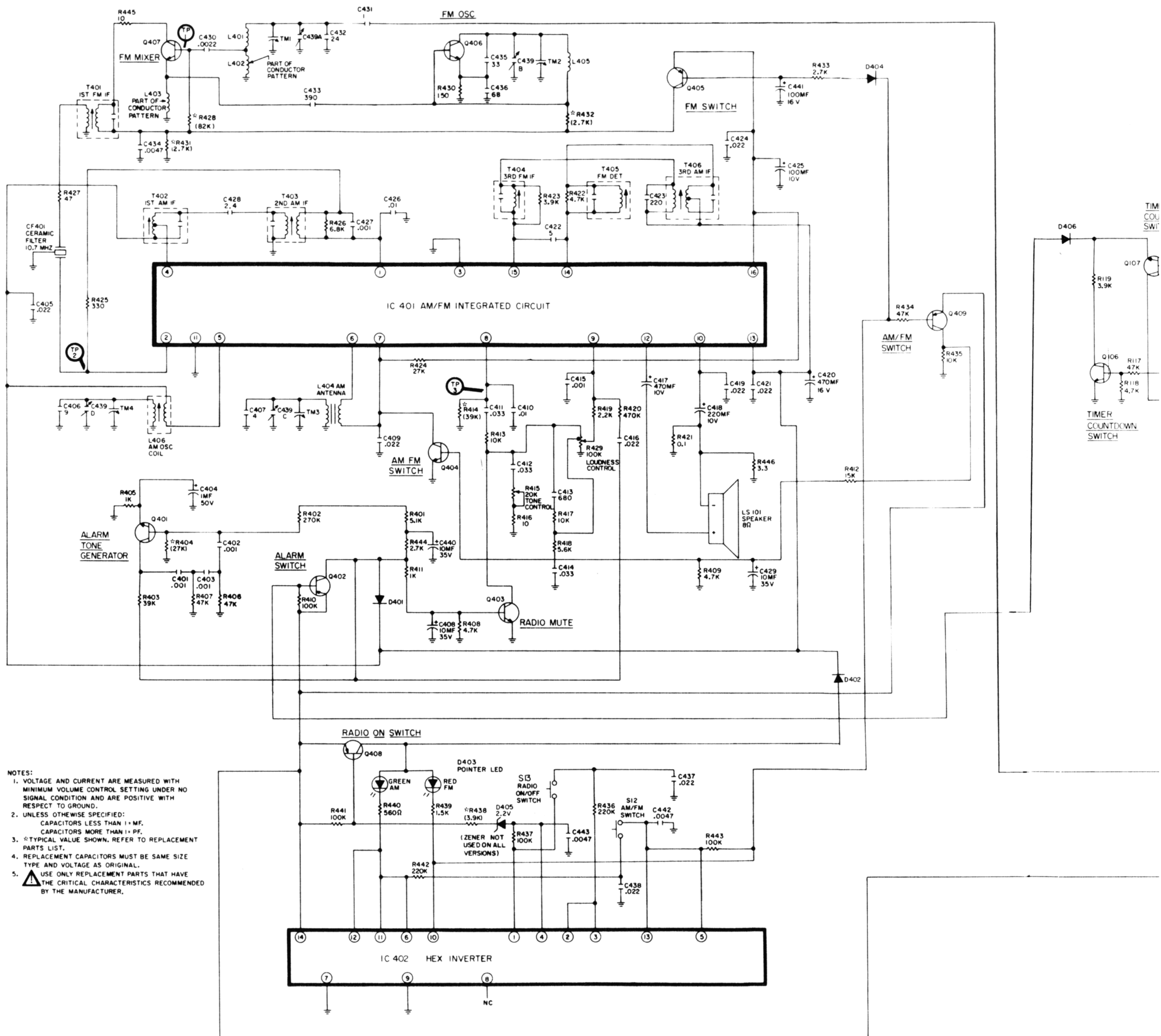


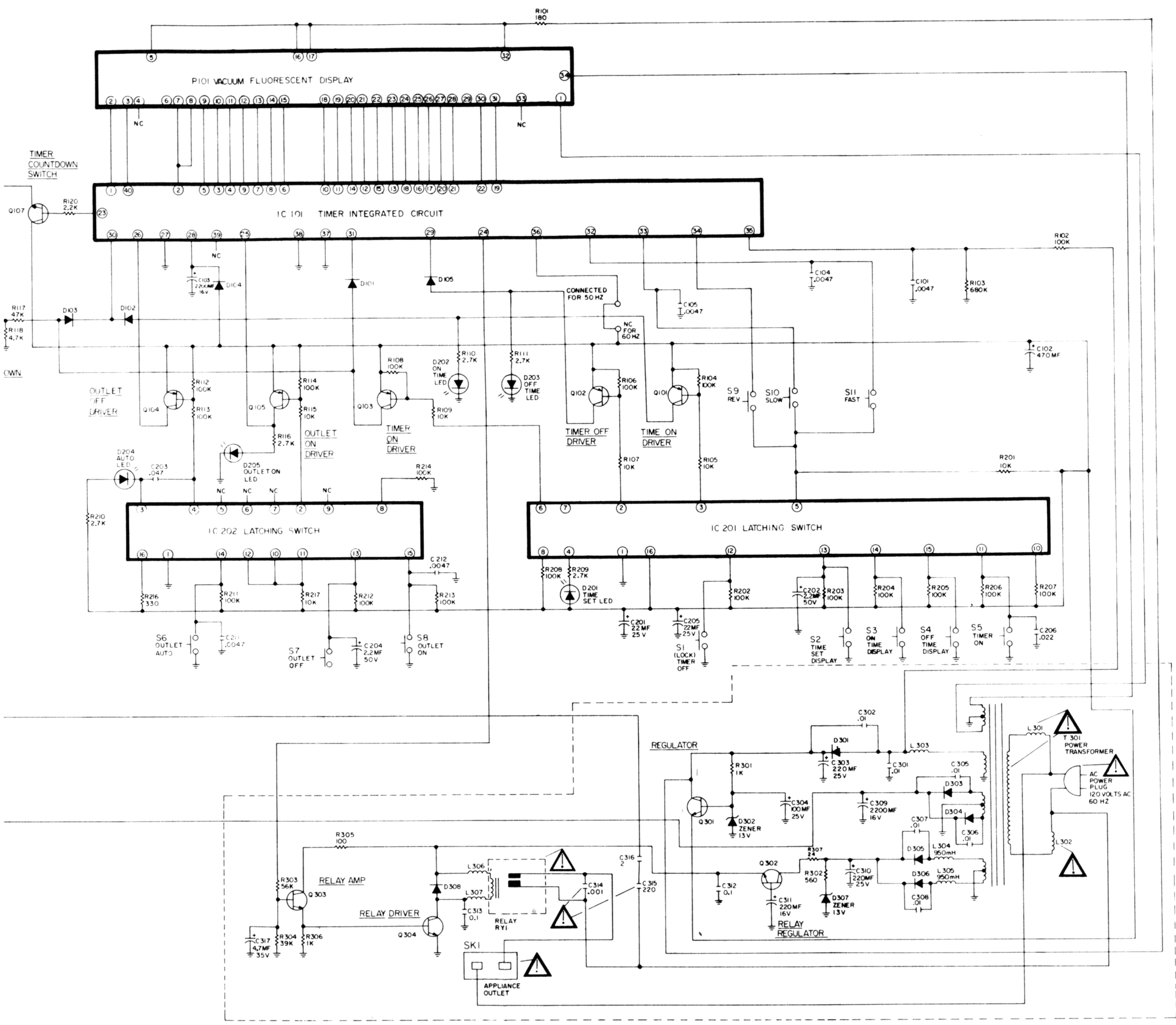
WIRING DIAGRAM (BOTTOM VIEW) DISPLAY BOARD

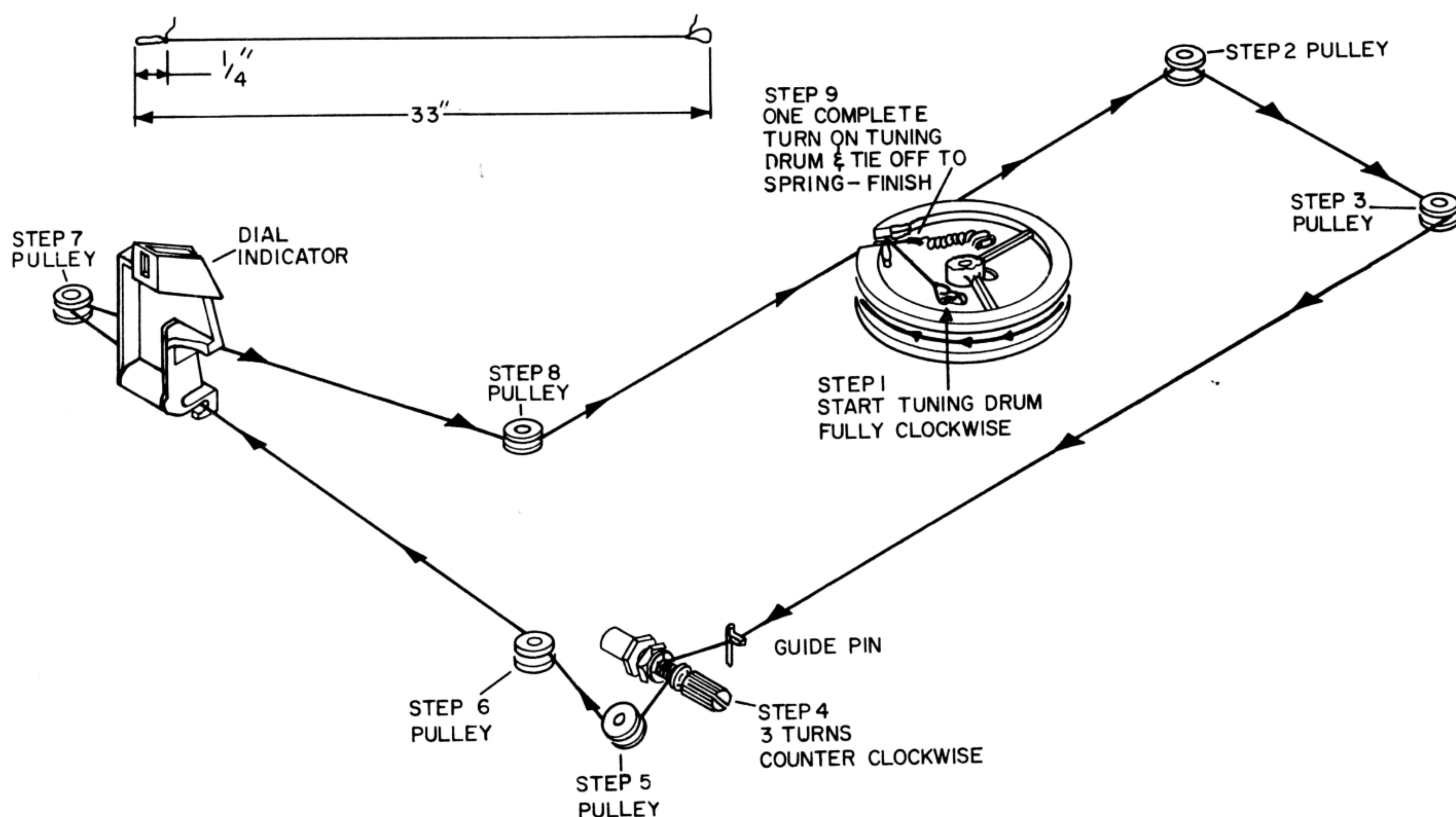


WIRING DIAGRAM (BOTTOM VIEW) POWER SUPPLY BOARD









DIAL CORD STRINGING

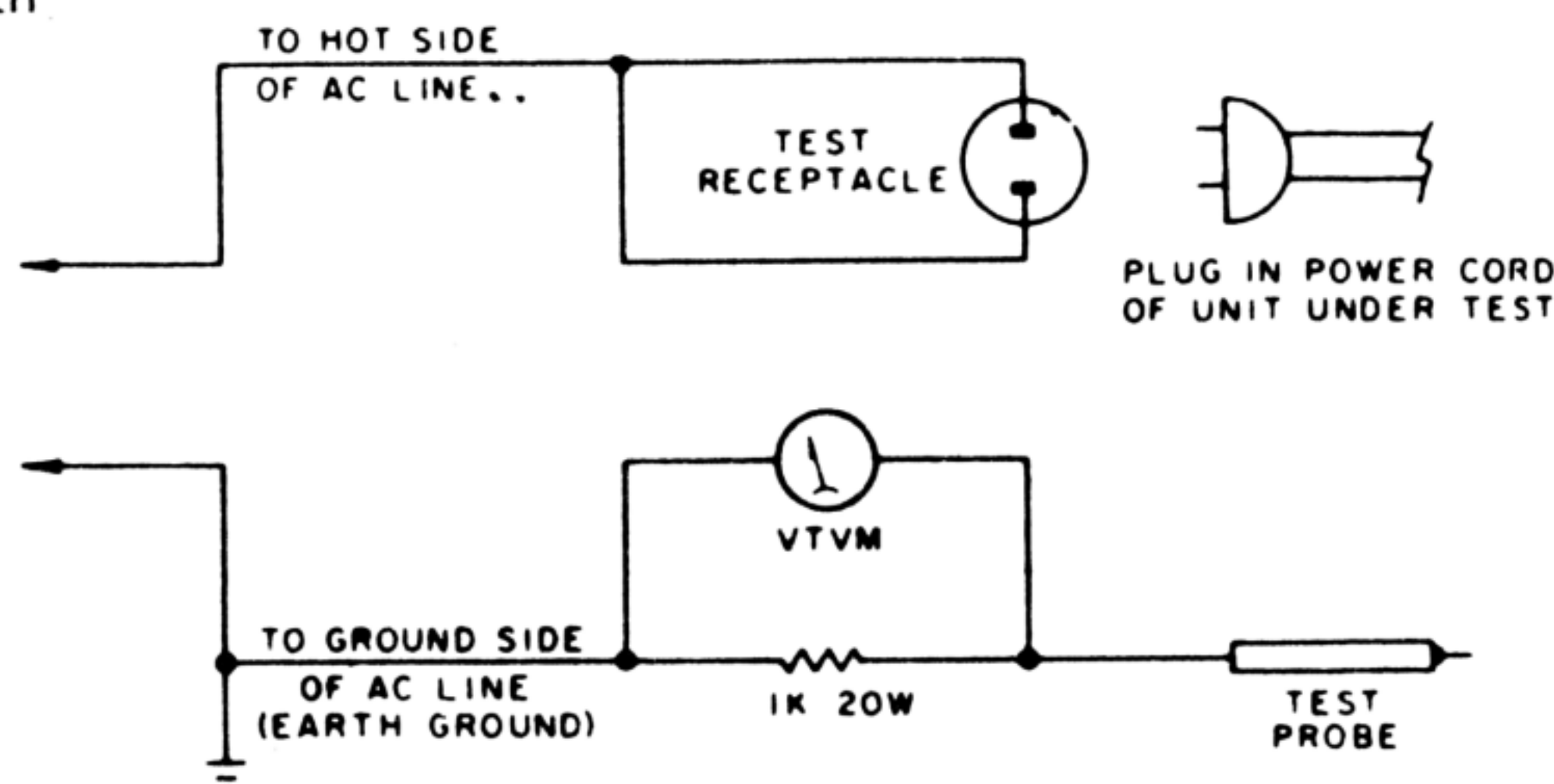
IMPORTANT

PERFORM THE FOLLOWING SAFETY CHECKS AFTER SERVICING THIS UNIT

1. Remove all externally connected test equipment and wires before safety testing this unit.
2. Use RT6440 Safety Test Box or construct circuit as shown.
3. Plug power cord of unit to be tested into Test Receptacle.
4. Connect VTVM across 1K resistor in test circuit. Set meter on high (150V AC) scale to avoid meter damage and touch the following points with Test Probe.
 - a) cabinet top mounting screw located nearest power cord,
 - b) power transformer frame,
 - c) J4 terminal with black lead located on power supply board near power transformer.

5. Any reading greater than two tenths (.2) volt indicates a potential shock hazard. If this occurs, determine the cause of the leakage, correct the problem, and repeat safety test.

NOTE: Any wires moved during servicing should be repositioned to original position. Special care should be taken when assembling cabinet top that no wires are caught or pinched in the "CABINET WELLS" for the metal mounting bracket.



If meter reading indicates less than 3 volts on all test points, set meter to low (3V AC) scale and repeat test.

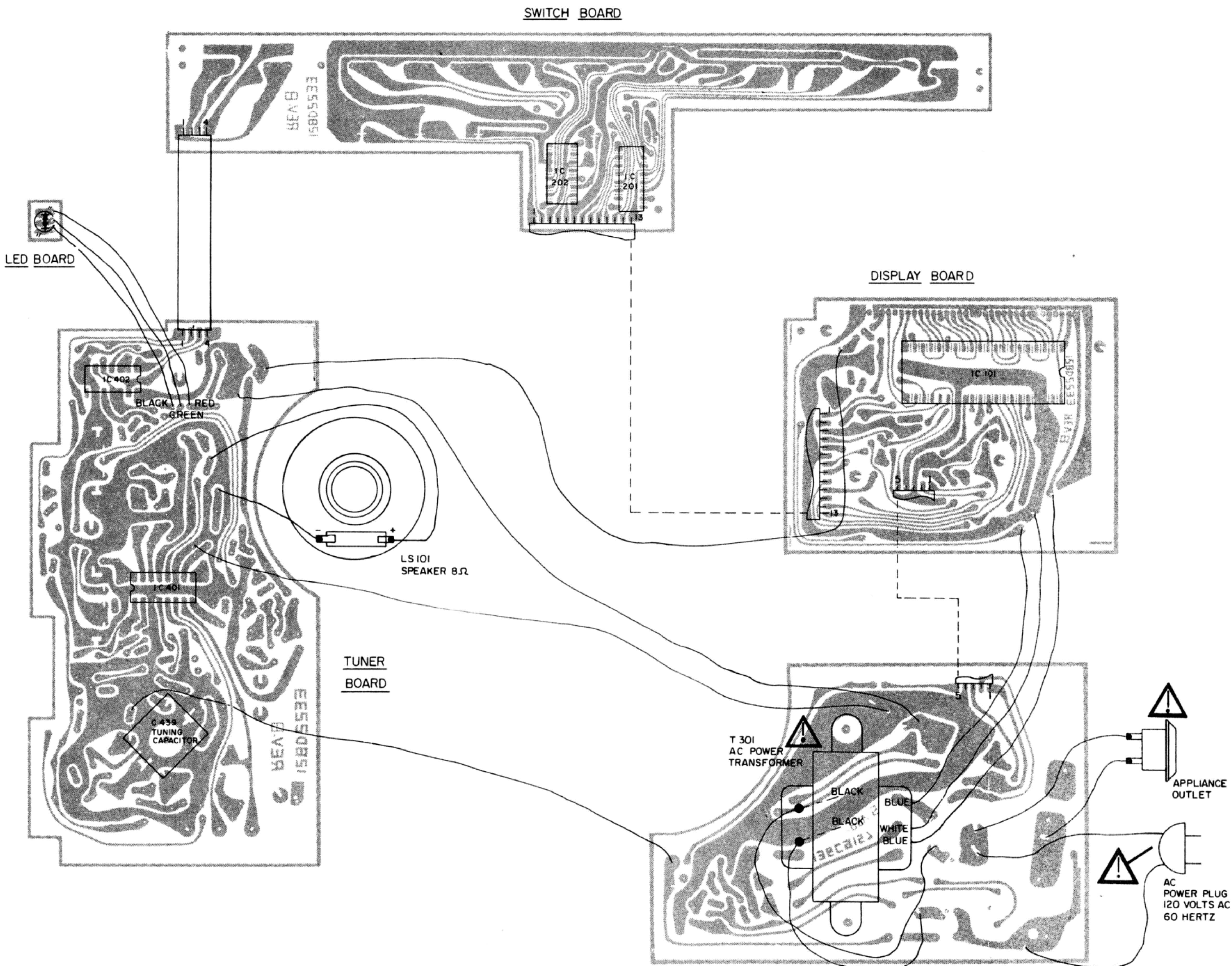
VOLUME AT MIN. OUTLET AT OFF MODE															
RADIO ON								RADIO OFF							
FM				AM				FM				AM			
TIMER ON		TIMER OFF		TIMER ON		TIMER OFF		TIMER ON		TIMER OFF		TIMER ON		TIMER OFF	
C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C
Q401	6.1	.9	.3	0	0	0	6.0	.9	.3	0	0	0	6.1	.9	.3
Q402	10.5	9.8	10.6	0	10.7	10.8	10.5	9.8	10.6	0	10.7	10.8	10.7	10.0	10.8
Q403	0	.8	0	0	0	0	0	.8	0	0	0	0	0.8	0	0
Q404	0	.7	0	0	.7	0	1.1	0	0	1.1	0	0	.7	0	0
Q405	2.6	1.9	2.6	2.6	1.9	2.6	0	.9	1.3	0	.9	1.3	2.6	1.9	2.6
Q406	.81	.78	.1	.81	.77	.1	0	0	0	0	0	.81	.77	.1	0
Q407	2.5	.71	0	2.5	.71	0	0	0	0	0	0	2.5	.71	0	0
Q408	10.5	9.8	10.6	10.8	10.1	10.8	10.5	9.8	10.6	10.8	10.0	10.8	1.5	10.5	10.7
Q409	10.5	9.9	10.6	10.7	10.0	10.8	0	10.6	10.6	0	10.9	11.0	10.6	10.5	10.5
IC	401	402	401	402	401	402	401	402	401	402	401	402	401	402	401
1	1.94	0.3	1.94	0.4	1.0	0.3	1.0	0.3	1.9	10.2	0	10.9	1.1	10.4	0
2	1.94	10.7	1.94	10.9	1.0	10.2	1.1	10.6	1.9	0	0	0	1.1	0	0
3	0	10.7	0	10.9	0	10.2	0	10.6	0	0	0	0	0	0	0
4	10.3	0.3	10.6	0.4	9.9	0.3	10.3	0.3	9.6	10.3	0.4	11.0	9.7	10.4	0.4
5	10.3	0	10.6	0	9.9	0	10.3	0	9.6	0	0.4	0	9.7	0	0.4
6	0	10.6	0	10.9	1.0	10.2	1.1	10.8	0	10.3	0	11.0	1.0	10.4	0
7	0	0	0	0	1.0	0	1.0	0	0	0	0	0	1.0	0	0
8	1.95	10.6	1.95	10.9	1.2	10.2	1.2	10.9	1.8	10.3	0	11.0	1.2	10.4	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	1.1	0.4	1.1	0.4	1.1	10.2	1.1	10.9	1.1	0	0.4	0	1.1	10.4	0.4
11	0	10.6	0	10.9	0	0.3	0	0.3	0	10.3	0	11.0	0	0	0
12	4.8	10.6	4.9	10.9	4.6	0.3	4.8	0.3	4.5	10.3	0.4	11.0	4.5	0	0.4
13	10.3	0.4	10.6	0.4	9.9	10.1	10.3	10.7	9.6	0	0.4	0	9.7	10.3	0.4
14	10.3	10.6	10.6	10.9	9.9	10.2	10.3	10.9	9.6	10.3	0.4	11.0	9.7	10.4	0.4
15	10.3		10.6		9.9		10.3		9.6		0.4		9.7		0.4
16	2.6		2.6		1.2		1.2		2.5		0		1.2		0

RADIO AT OFF MODE						
OUTLET OFF			OUTLET ON			
C	B	E	C	B	E	
Q301	19.1	12.8	12.1	17.6	12.8	12.1
Q302	22.8	13.2	12.9	14.6	12.9	12.2
Q303	12.9	0	0	6.1	1.6	0.8
Q304	12.9	0	0	0	0.8	0

RADIO AT OFF MODE OUTLET AT OFF MODE	
PT. PIN#	V.F. DISPLAY
1	1.16 AC
5	15.0
16	15.0
17	15.0
32	15.0
34	1.17 AC

VOLUME AT MIN. POSITION RADIO AT OFF MODE OUTLET AT OFF MODE					
PIN # PT.	TIMER ON	TIMER OFF	TIME SET	ON TIME	OFF TIME
IC 201	1	0			
	2	12.0	12.0	12.0	0
	3	12.0	12.0	0	12.0
	4	10.9	10.9	0	10.9
	5	12.2	0	12.1	12.1
	6	0	12.0	12.0	12.0
	7	0	0	0	0
	8	12.0	12.0	12.0	12.0
	9	0	0	0	0
	10	12.0	12.0	12.0	12.0
	11	12.0	12.0	12.0	12.0
	12	12.0	12.0	12.0	12.0
	13	12.0	12.0	12.0	12.0
	14	12.0	12.0	12.0	12.0
	15	12.0	12.0	12.0	12.0
	16	12.2	12.2	12.2	12.2
Q101	C	0	0	0	12.1
	B	12.0	12.0	12.0	11.4
	E	12.2	12.2	12.2	12.2
Q102	C	0	0	0	12.1
	B	12.0	12.0	12.0	12.0
	E	12.2	12.2	12.2	12.2
Q103	C	12.2	0	0	0
	B	11.4	12.0	12.0	12.0
	E	12.2	12.2	12.2	12.2
RADIO AT OFF, DISPLAY AT TIMER OFF					
OUTLET PIN # PT.	AUTO	OFF	ON		
IC 202	1	0	0	0	
	2	12.0	12.0	0	
	3	0	10.6	10.6	
	4	11.9	0	11.9	
	5	0	0	0	
	6	0	0	0	
	7	0	0	0	
	8	0	0	0	
	9	0	0	0	
	10	0	0	0	
	11	0	0	0	
	12	0	0	0	
	13	12.0	12.0	12.0	
	14	12.0	12.0	12.0	
	15	12.0	12.0	12.0	
	16	12.1	12.1	12.1	
	C	B	E	C	B
Q104	12.1	11.4	12.2	0	12.0
Q105	0	12.0	12.2	0	12.0

VOLUME AT MIN. POSITION RADIO AT OFF POSITION															
OUTLET AUTO						OUTLET OFF					OUTLET ON				
TIMER ON		TIMER OFF		TIME SET		TIMER ON		TIMER OFF		TIME SET		TIMER ON		TIMER OFF	
ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
IC 101	23	0	0.9	1.1	1.1	0	1.0	1.1	1.1	1.1	0	0.6	1.2	1.2	1.2
	24	0	0	0	0	0	0	0	0	0	0	11.1	11.1	11.1	11.1
	25	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	12.1	12.1	12.1	12.1	12.1
	26	0.3	0.3	0.3	0.3	12.2	12.2	12.2	12.1	12.1	0.3	0.3	0.3	0.3	0.3
	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
	29	0.3	0.3	0.3	0.3	11.8	0.3	0.3	0.3	11.8	0.4	0.3	0.3	0.5	11.7
	30	11.8	0.3	0.3	11.8	0.3	11.8	0.3	0.3	11.8	0.3	11.7	0.3	0.3	0.3
	31	11.8	0.3	0.3	0.3	11.8	0.3	0.3	0.3	11.7	0.3	0.3	0.3	0.3	0.3
	32	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	33	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	34	3.2	3.2	3.2	3.1	3.1	3.4	3.3	3.3	3.2	2.9	2.9	2.8	2.7	2.7
	35	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC
	36	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.3	0.8	0.8	0.8	0.8	0.8	0.8
Q106	C	0.1	11.9	11.9	11.9	0.1	11.8	11.9	11.9	11.9	0.1	11.4	11.4	11.4	11.4
	B	0.7	0	0	0	0	0.7	0	0	0	0	0.7	0	0	0
	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Q107	C	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.1	12.1	12.1	12.1	12.1
	B	0	1.5	1.6	1.6	1.6	0	1.5	1.6	1.6	1.6	0	1.1	1.2	1.2
	E	10.0	11.9	11.9	11.9	11.9	10.0	11.9	11.9	11.9	11.9	9.6	11.5	11.5	11.5



INTERCONNECTING WIRING DIAGRAM

VOLUME AT MIN. OUTLET AT OFF MODE															
RADIO ON								RADIO OFF							
FM				AM				FM				AM			
TIMER ON		TIMER OFF		TIMER ON		TIMER OFF		TIMER ON		TIMER OFF		TIMER ON		TIMER OFF	
C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C
Q401	6.1	.9	.3	0	0	0	6.0	.9	.3	0	0	0	6.1	.9	.3
Q402	10.5	9.8	10.6	0	10.7	10.8	10.5	9.8	10.6	0	10.7	10.8	10.7	10.0	10.8
Q403	0	.8	0	0	0	0	0	.8	0	0	0	0	0.8	0	0
Q404	0	.7	0	0	.7	0	1.1	0	0	1.1	0	0	.7	0	0
Q405	2.6	1.9	2.6	2.6	1.9	2.6	0	.9	1.3	0	.9	1.3	2.6	1.9	2.6
Q406	.81	.78	.1	.81	.77	.1	0	0	0	0	0	.81	.77	.1	0
Q407	2.5	.71	0	2.5	.71	0	0	0	0	0	0	2.5	.71	0	0
Q408	10.5	9.8	10.6	10.8	10.1	10.8	10.5	9.8	10.6	10.8	10.0	10.8	1.5	10.5	10.7
Q409	10.5	9.9	10.6	10.7	10.0	10.8	0	10.6	10.6	0	10.9	11.0	10.6	10.5	10.5
IC	401	402	401	402	401	402	401	402	401	402	401	402	401	402	401
1	1.94	0.3	1.94	0.4	1.0	0.3	1.0	0.3	1.9	10.2	0	10.9	1.1	10.4	0
2	1.94	10.7	1.94	10.9	1.0	10.2	1.1	10.6	1.9	0	0	0	1.1	0	0
3	0	10.7	0	10.9	0	10.2	0	10.6	0	0	0	0	0	0	0
4	10.3	0.3	10.6	0.4	9.9	0.3	10.3	0.3	9.6	10.3	0.4	11.0	9.7	10.4	0.4
5	10.3	0	10.6	0	9.9	0	10.3	0	9.6	0	0.4	0	9.7	0	0.4
6	0	10.6	0	10.9	1.0	10.2	1.1	10.8	0	10.3	0	11.0	1.0	10.4	0
7	0	0	0	0	1.0	0	1.0	0	0	0	0	0	1.0	0	0
8	1.95	10.6	1.95	10.9	1.2	10.2	1.2	10.9	1.8	10.3	0	11.0	1.2	10.4	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	1.1	0.4	1.1	0.4	1.1	10.2	1.1	10.9	1.1	0	0.4	0	1.1	10.4	0.4
11	0	10.6	0	10.9	0	0.3	0	0.3	0	10.3	0	11.0	0	0	0
12	4.8	10.6	4.9	10.9	4.6	0.3	4.8	0.3	4.5	10.3	0.4	11.0	4.5	0	0.4
13	10.3	0.4	10.6	0.4	9.9	10.1	10.3	10.7	9.6	0	0.4	0	9.7	10.3	0.4
14	10.3	10.6	10.6	10.9	9.9	10.2	10.3	10.9	9.6	10.3	0.4	11.0	9.7	10.4	0.4
15	10.3		10.6		9.9		10.3		9.6		0.4		9.7		0.4
16	2.6		2.6		1.2		1.2		2.5		0		1.2		0

RADIO AT OFF MODE						
OUTLET OFF			OUTLET ON			
C	B	E	C	B	E	
Q301	19.1	12.8	12.1	17.6	12.8	12.1
Q302	22.8	13.2	12.9	14.6	12.9	12.2
Q303	12.9	0	0	6.1	1.6	0.8
Q304	12.9	0	0	0	0.8	0

RADIO AT OFF MODE OUTLET AT OFF MODE	
PT. PIN#	V.F. DISPLAY
1	1.16 AC
5	15.0
16	15.0
17	15.0
32	15.0
34	1.17 AC

VOLUME AT MIN. POSITION RADIO AT OFF MODE OUTLET AT OFF MODE					
PIN # PT.	TIMER ON	TIMER OFF	TIME SET	ON TIME	OFF TIME
1	0				
2	12.0	12.0	12.0	12.0	0
3	12.0	12.0	12.0	0	12.0
4	10.9	10.9	0	10.9	10.9
5	12.2	0	12.1	12.1	12.1
6	0	12.0	12.0	12.0	12.0
7	0	0	0	0	0
8	12.0	12.0	12.0	12.0	12.0
9	0	0	0	0	0
10	12.0	12.0	12.0	12.0	12.0
11	12.0	12.0	12.0	12.0	12.0
12	12.0	12.0	12.0	12.0	12.0
13	12.0	12.0	12.0	12.0	12.0
14	12.0	12.0	12.0	12.0	12.0
15	12.0	12.0	12.0	12.0	12.0
16	12.2	12.2	12.2	12.2	12.2
Q101	C	0	0	0	12.1
	B	12.0	12.0	12.0	11.4
	E	12.2	12.2	12.2	12.2
Q102	C	0	0	0	12.1
	B	12.0	12.0	12.0	12.0
	E	12.2	12.2	12.2	12.2
Q103	C	12.2	0	0	0
	B	11.4	12.0	12.0	12.0
	E	12.2	12.2	12.2	12.2

RADIO AT OFF, DISPLAY AT TIMER OFF			
OUTLET PIN # PT.	AUTO	OFF	ON
1	0	0	0
2	12.0	12.0	0
3	0	10.6	10.6
4	11.9	0	11.9
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	12.0	12.0	12.0
14	12.0	12.0	12.0
15	12.0	12.0	12.0
16	12.1	12.1	12.1
	C	B	E
Q104	12.1	11.4	12.2
Q105	0	12.0	12.2

VOLUME AT MIN. POSITION RADIO AT OFF POSITION															
OUTLET AUTO						OUTLET OFF					OUTLET ON				
TIMER ON		TIMER OFF		TIME SET		ON TIME		OFF TIME		TIMER ON		TIMER OFF		TIME SET	
ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
23	0	0.9	1.1	1.1	1.1	0	1.0	1.1	1.1	0	0.6	1.2	1.2	1.2	1.2
24	0	0	0	0	0	0	0	0	0	0	0	11.1	11.1	11.1	11.1
25	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	12.1	12.1	12.1	12.1	12.1	12.1
26	0.3	0.3	0.3	0.3	0.3	12.2	12.2	12.2	12.1	12.1	0.3	0.3	0.3	0.3	0.3
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
29	0.3	0.3	0.3	0.3	0.3	11.8	0.3	0.3	0.3	11.8	0.4	0.3	0.3	0.5	11.7
30	11.8	0.3	0.3	11.8	0.3	11.8	0.3	0.3	11.8	0.3	11.7	0.3	0.3	11.7	0.3
31	11.8	0.3	0.3	0.3	0.3	11.8	0.3	0.3	0.3	11.7	0.3	0.3	0.3	0.3	0.3
32	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
33	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
34	3.2	3.2	3.2	3.1	3.1	3.4	3.3	3.3	3.2	3.2	2.9	2.8	2.7	2.7	2.7
35	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC	10.5 AC
36	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.3	0.8	0.8	0.8	0.8	0.8	0.8
Q106	C	0.1	11.9	11.9	11.9	0.1	11.8	11.9	11.9	0.1	11.4	11.4	11.4	11.4	11.4
	B	0.7	0	0	0	0	0.7	0	0	0	0	0	0	0	0
	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Q107	C	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.1	12.1	12.1	12.1	12.1	12.1
	B	0	1.5	1.6	1.6	1.6	0	1.5	1.6	1.6	1.6	0	1.1	1.2	1.2
	E	10.0	11.9	11.9	11.9	11.9	10.0	11.9	11.9	11.9	11.9	9.6	11.5	11.5	11.5

REPLACEMENT PARTS LIST MODEL 7-4220A

CAT. NO.	SYMBOL	DESCRIPTION
EA16X477	D101-103	Diode
EA16X602	D104, 105	Diode
EA16X293	D201-205	LED
EA16X602	D301, 303-306	Diode
EA16X603	D302, 307	Zener Diode, 13V
EA57X14	D308	Diode
EA16X602	D401	Diode
EA16X492	D402	Diode
EA16X355	D403	LED
EA16X477	D404, 406	Diode
EA36X483	CF401	10.7MHz Ceramic Filter
EA49X816	R415	Tone Control, 20K
EA49X817	R429	Loudness Control, 100K
EA39X687	S1-13	Tact Switch
EA16X354	P101	Vacuum Fluorescent Display
EA88X331	T301	Power Transformer



CAT. NO.	SYMBOL	DESCRIPTION
EA95X260	LS101	Speaker, 8 ohm
EA62X392	RY1	Relay
EA2X1661	MS-1	Mounting Bracket
EA1X921	MS-2	Screw Kit
EA38X40	MS-3	Appliance Outlet
EA66X63	MS-4	Power Cord
EA98X1149	MS-5	Cabinet Front w/Crystal & Graphic Panel Insert
EA98X1150	MS-6	Cabinet Base
EA98X1151	MS-7	Cabinet Top w/insert
EA90X357	MS-8	Crystal
EA43X1827	MS-9	Tuning Knob
EA43X1828	MS-10	Tone Knob
EA43X1829	MS-11	Loudness Knob

NOTE: MS Reference is for factory use only.

TRANSISTORS & INTEGRATED CIRCUITS

Note: When replacing transistors and integrated circuits with the type specified below, corresponding changes must also be made.

CAT. NO.	SYMBOL	COMPONENT CHANGES
EA15X8524	Q101-105	None
EA15X7590	Q106, 107	None
EA15X7590	Q301, 303	None
EA15X5012	Q302, 304	None
EA15X1151	Q401	R404 (27K)
EA15X8523	Q402	None
EA15X7590	Q403, 404	None
EA15X8524	Q405, 408, 409	None
EA15X2023	Q406	R432 (2.7K)
EA15X2023	Q407	R428 (82K)
EA33X8661	IC101	None
EA33X8657	IC201, 202	None
EA33X8546	IC401	R414 (39K), R431 (2.7K)
EA33X8642	IC402	R438 (3.9K)

Capacitors and items not listed are non-stocked items.

All capacitors should be replaced with same type, size and Voltage rating as original.

Parts marked with  are important for maintaining the safety of the set. Be sure to replace these with only specified ones for maintaining the safety and performance of the unit.

Replacement parts may be ordered from: General Electric AEPD Parts Dist. Center, 13900 West 101st. Street, Lenexa, Kansas 66215 or in CANADA - Canadian General Electric % Black & Decker, 80 Bradford St., P. O. Box 1060, Barrie, Ontario L4M5E1



MODEL 7-4220A
37-6505-84

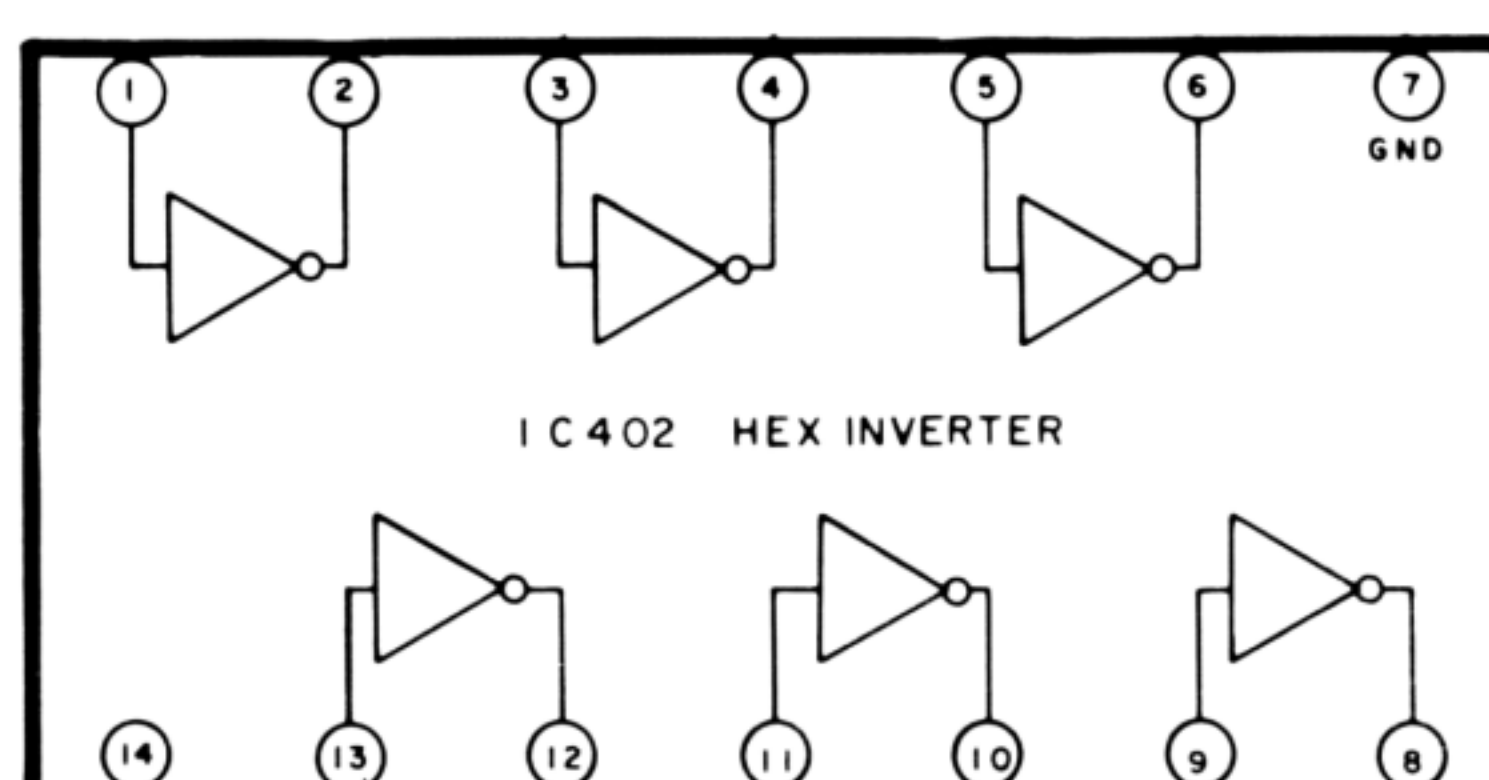
AUDIO SERVICE SUPPLEMENT

MODEL
7-4220A
SPACEMAKER
KITCHEN RADIO

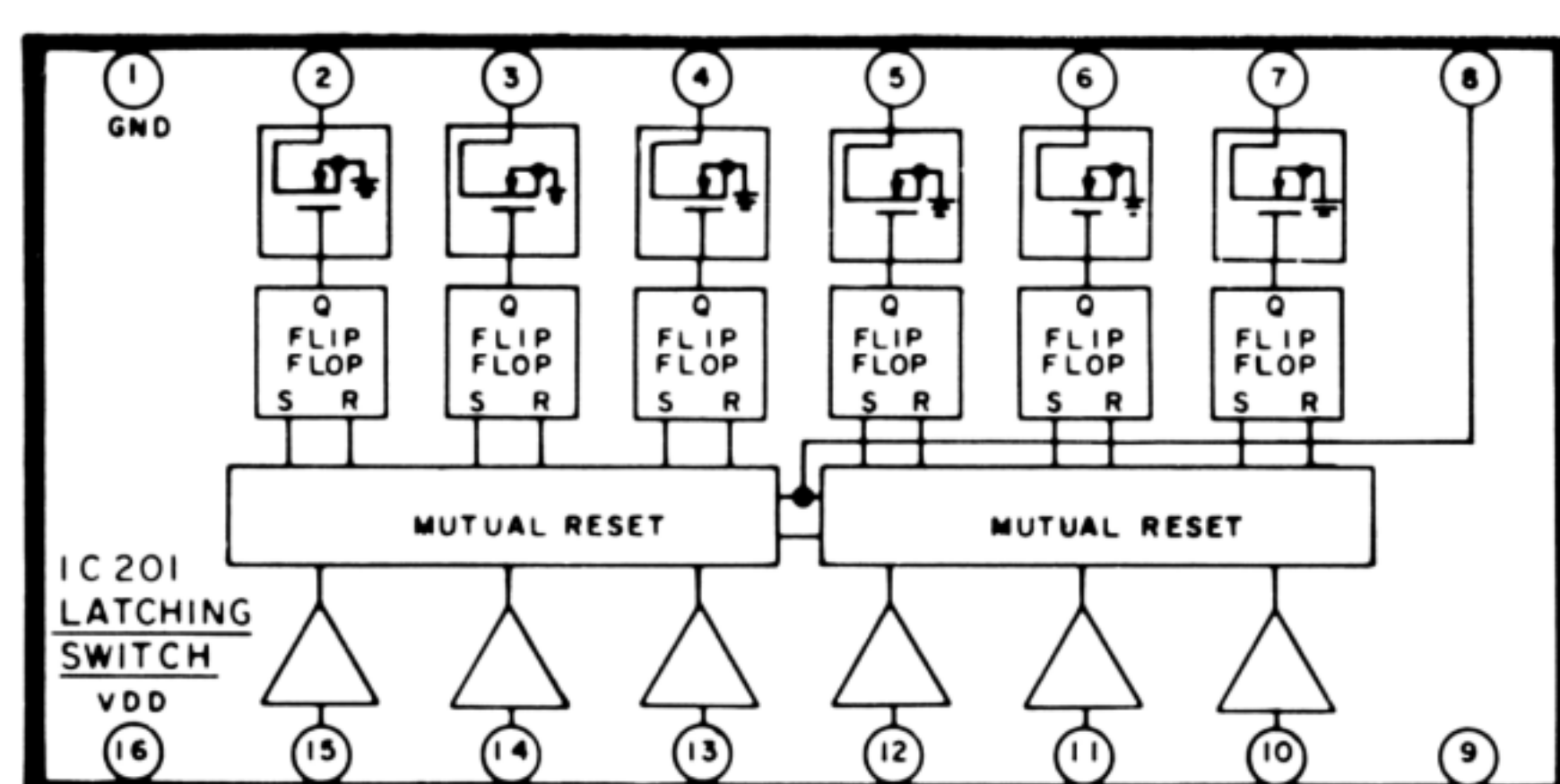
FILE TAB 7

THIS SUPPLEMENT CONTAINS UPDATED OR ADDITIONAL REPLACEMENT PARTS & SERVICE INFORMATION.
FILE AHEAD OF THE SERVICE MANUAL FOR THIS MODEL.

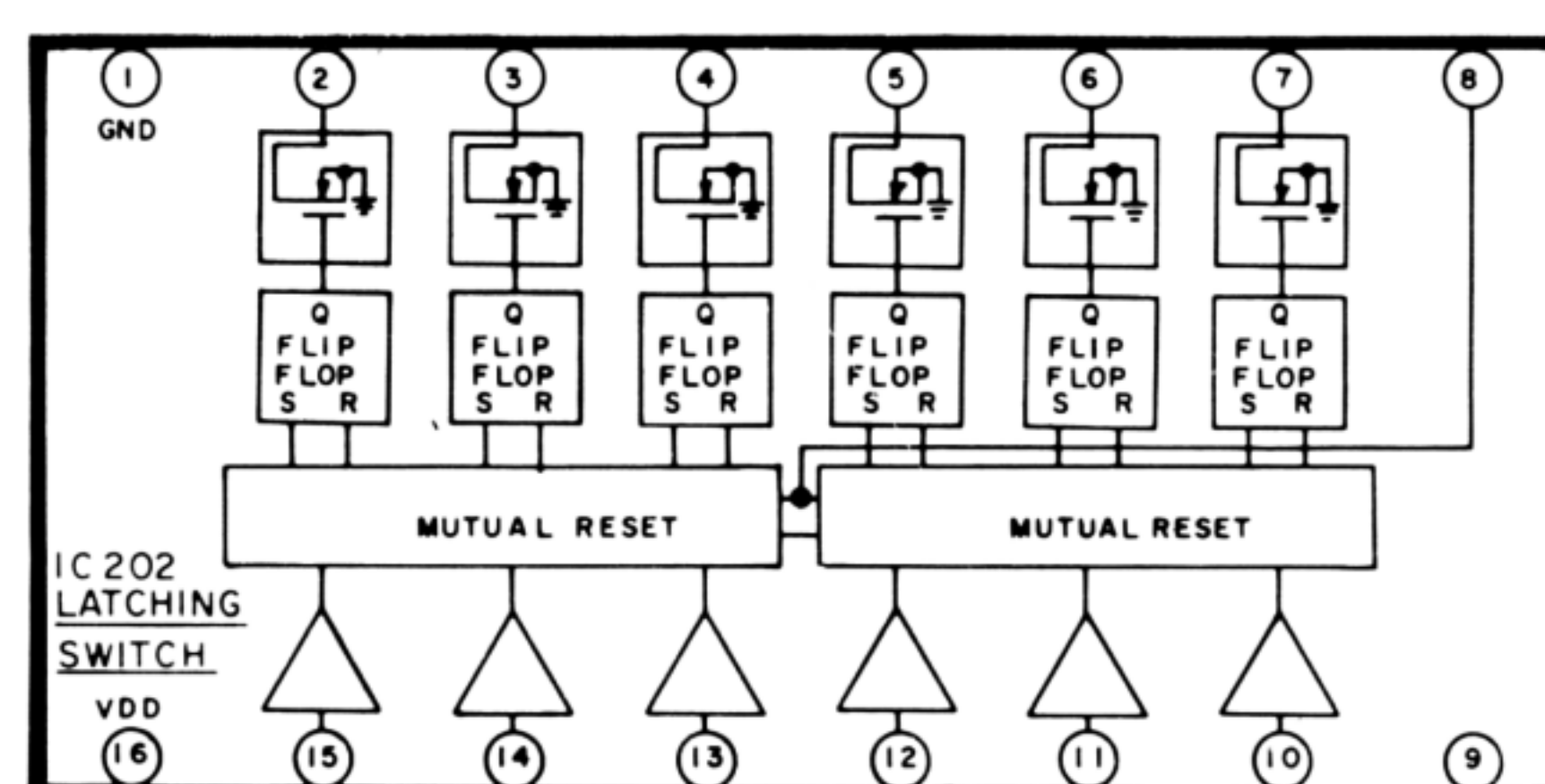
AS A FURTHER AID IN TROUBLESHOOTING THIS MODEL, THE FOLLOWING
INTEGRATED CIRCUIT BLOCK DIAGRAMS WILL HELP IDENTIFY THE PIN TERMINALS.



IC 401 HEX INVERTER



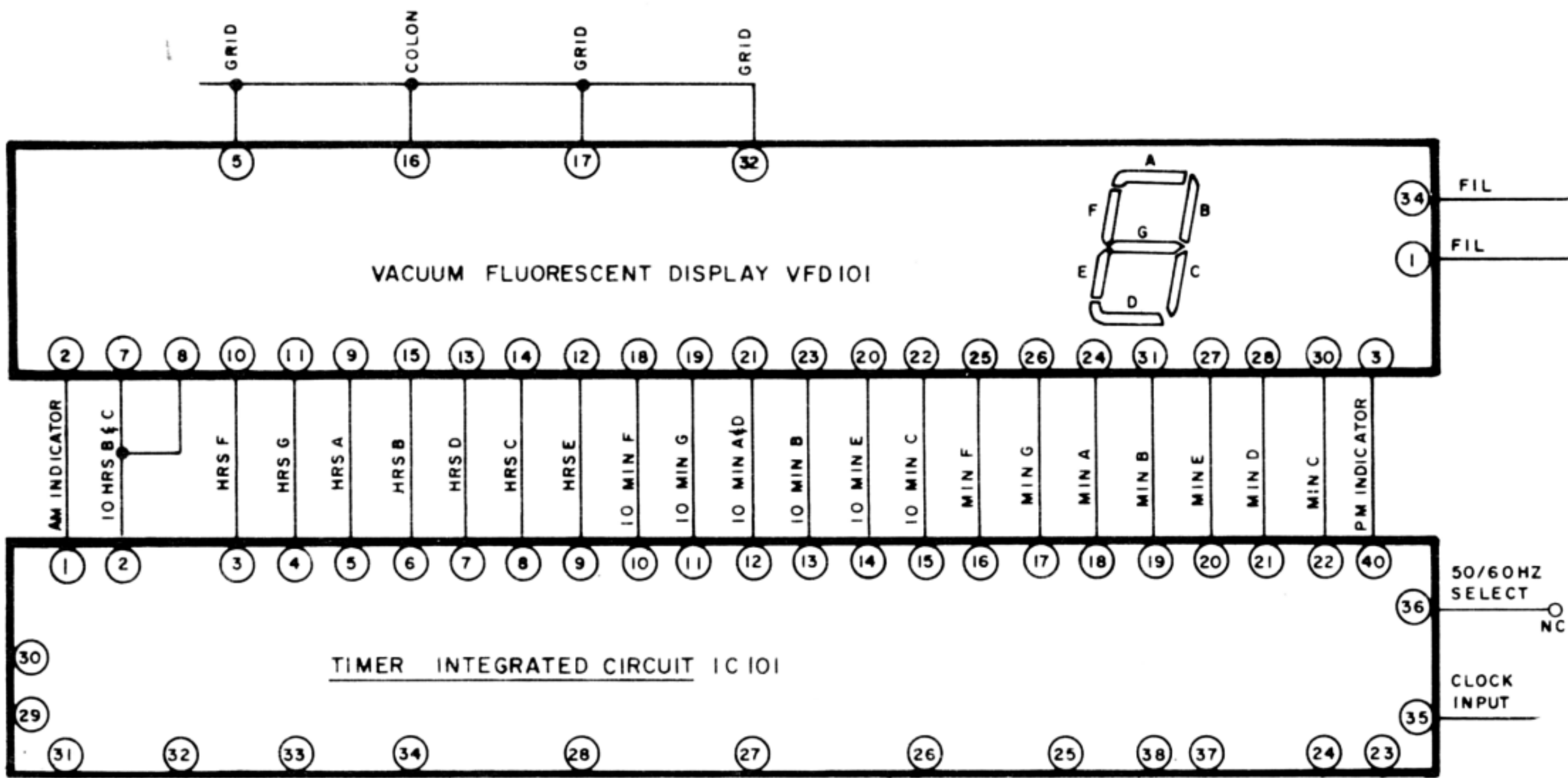
IC 201 LATCHING SWITCH



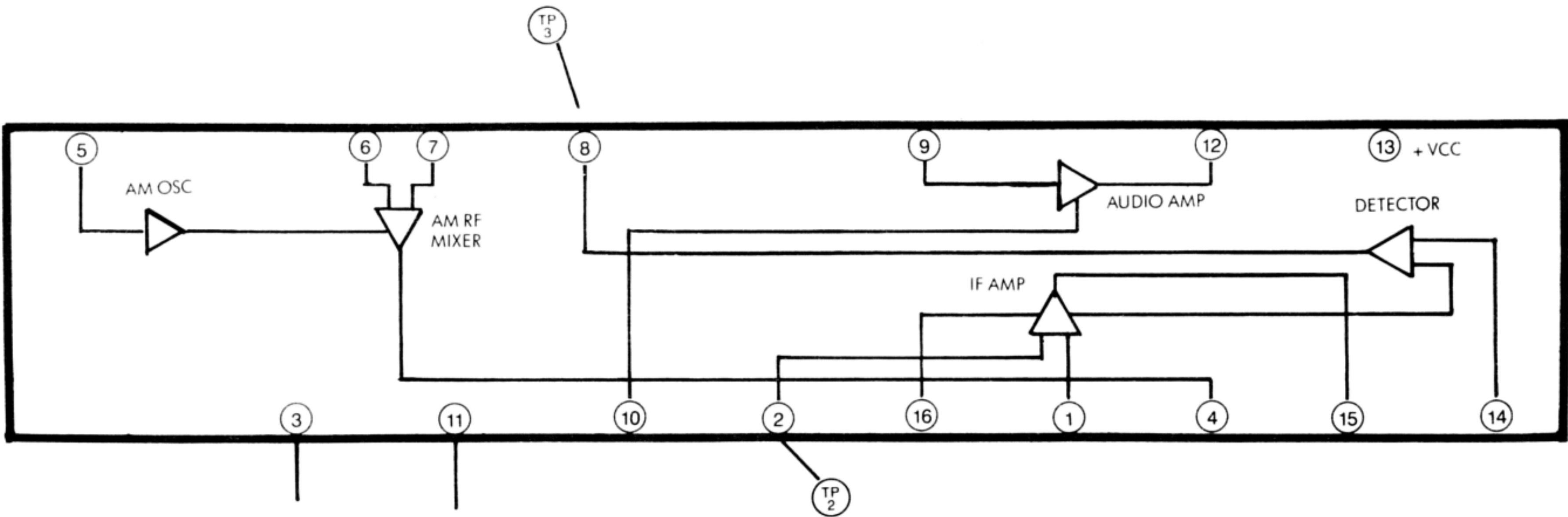
IC 202 LATCHING SWITCH

CONTINUED ON BACK

P101 DISPLAY



IC 101 TIMER INTEGRATED CIRCUIT



IC 401 AM/FM TUNER